

Abstract of the Disclosure

An apparatus includes a reaction chamber installed in a reaction furnace; a discharge port for removing from the reaction chamber reaction byproducts formed during producing of the semiconductor device; a heater for generating heat to the reaction chamber; and a hot fluid supply unit for introducing heat from the heater and the reaction chamber into the discharge port. The hot fluid supply unit further comprises a fluid container for receiving a heat transfer fluid. The apparatus includes a hot fluid generator adjacent the reaction chamber in the reaction furnace. The hot fluid generator defines a fluid channel for conveying the heat transfer fluid and transfers heat generated from the heater and the reaction chamber to the heat transfer fluid supplied from the fluid container. The apparatus also includes a heat transfer element for transferring heat to the discharge port using the heat transfer fluid supplied from the hot fluid generator.